Optical Activity

Materials
- Beakers
- Water
- Karo syrup (fructose solution)
- Polaroid sheets
- Overhead projector

Procedure
1. Place one sheet of polaroid on the overhead projector.
2. Set a beaker of water and a beaker of fructose solution (karo syrup) on the polaroid sheet.
3. Place a second sheet of polaroid on top of the beakers.
4. Rotate the polaroid disc around to show that the fructose solution rotates the plane of plane-polarized light.

Additional experiment
1. Place a radially polarized filter on the overhead projector.
2. Place a large glass dish on the filter.
3. Suspend a parallel polaroid sheet above the glass dish.
4. Pour in karo syrup and see a beautiful kaleidoscopic display.

Discussion
When ordinary light is passed through a polarizer the light that emerges is oscillating only in one plane. If two polaroid sheets are placed on top of each other so that the axis of polarization coincide, then light will pass through. If one polaroid sheet is rotated 90o with respect to the other no light passes through. Optically active compounds are able to rotate the plane of polarized light.